

SANMOTION

New Product Information

5-phase Stepping Motor with **CANopen** Interface Integrated Driver

□ 42mm

□ 60mm

SANYO DENKI EUROPE SA. is pleased to introduce its new 5-phase Stepping Motor with Integrated Driver and Built-in CANopen Interface serie «**SANMOTION F5 - DPF**». With a wide variety of functions, this product offers system designers a simple, compact and cost effective solution for various kinds of applications.



■ Main features

1 Simple, compact and cost effective solution

Without cables between driver and motor, installation is very simple and EMC safe as switching noise remains within the motor. Furthermore, with less wiring cost as well as less load on the upper controller thanks to 3 operation modes, this solution is cost effective with a maximum user-benefit. By integrating the driver and the motor in a single unit, this solution dramatically reduces the space in the control cabinet.

2 CANopen interface - device profile DSP-402 V2.0

On the basis of performance, CANopen is the ideal bus for machines and installations. Its specific advantages are : a high fault tolerance (reduced EMC problems), a high flexibility (transmission types / 3 operation modes / priority message management), a high data throughput and many detailed diagnostic options (error control / emergency / object dictionary).

3 High resolution encoder & loss-of-synchronization detection

Thanks to a 500 PPR encoder, the driver is able of detecting actual position with a high resolution of 2000 PPR (4x500 PPR) and loss of synchronism.

4 Low vibration

An auto-micro function reduces vibrations by about 50% from our previous stepping motor with built-in driver. This function performs automatically micro-step at low speeds allowing smooth driving even at full and half step.

5 Micro-step control

25 different micro-step divisions are available, including the 0,72° basic step angle but also multiple of 1.8°. This means that the device can easily be used as a 2-phase stepping motor or replace it easily with 5-phase benefits.

6 RS-485 maintenance port

A serial interface RS-485 is provided for maintenance. Even if a problem occurs on the CAN communication this port can be used to perform diagnosis. Furthermore, if the CAN network is not established when starting up the device, test operations can be performed.

7 DC 24 V Brake option

The brake prevents the load from falling if the device is running on a vertical axis.

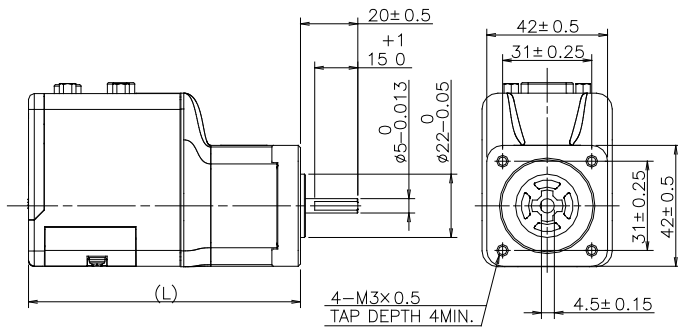
■ Target Applications

Medical industry, handling, labeling, textile, packaging, semiconductor equipment, machine tool.

Dimensions (mm)

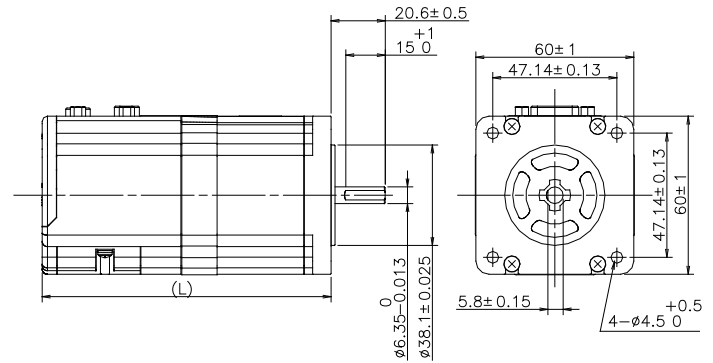
□42mm

Model N°	Holding Brake	Motor length (L)
DPF1M542S-01	-	94.6 +/- 2
DPF1M542SB01	✓	133 +/- 2



□60mm

Model N°	Holding Brake	Motor length (L)
DPF2M562S-01	-	109.7 +/- 2
DPF2M562SB01	✓	152.7 +/- 2

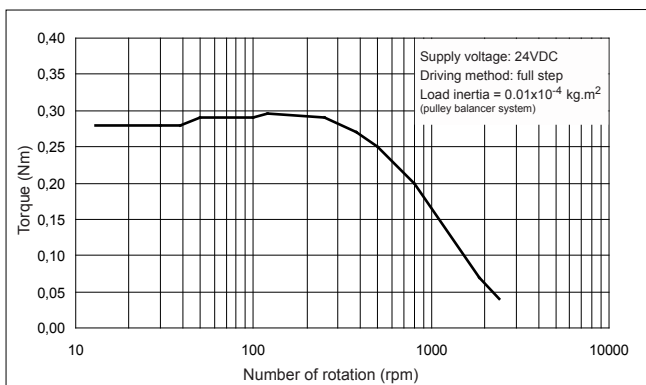


Specifications

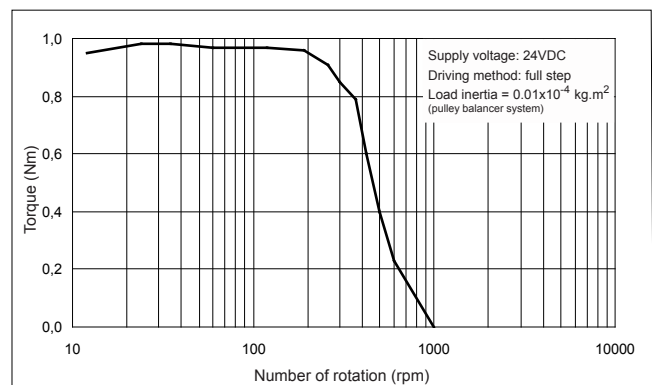
Model No.		DPF1M542S-01	DPF1M542SB01	DPF2M562S-01	DPF2M562SB01
Basic specifications	Holding Brake	-	✓	-	✓
	Flange size	42 mm		60 mm	
	Power supply	DC24V to 36V +/-10%		DC24V to 36V +/-10%	
	Holding Torque	0.28 Nm		0.98 Nm	
	Mass	0.45 kg	0.65 kg	0.9 kg	1.2 kg
Functions	LED display	Status : 7-segment LED CAN : RUN / ERROR			
	CANopen Interface	Bus Connection	CAN-Standard ISO-11898 (High-speed CAN)		
		CANopen specification	CiA DS301 Version 4.02		
		Device Profile	CiA DSP402 (drive and motion control) version 2.0		
		Bit Rate	up to 1Mbps		
		Max. nodes per segment	127 (selected by 2 rotary switches)		
		Connector	D-sub 9 pin		
		Max. Bus Length	25 m (for 1 Mbps)		
		Communication Objects	SDO (Service Data Object) EMCY (Emergency) SYNC (Synchronization Object) Heartbeat	PDO (Process Data Object) NMT (Network Management) Node Guarding	
	PDO Transfer Modes	Synchronous, Asynchronous			
	Modes of Operation	Homing Mode (h.m), Profile Velocity Mode (p.v), Profile Position Mode (p.p)			
	I/O signals	Connector	High density D-sub 15 pin		
		Input signal	General-purpose input x 6 PNP (GND common) 5 to 24V		
		Output signal	General-purpose output x 2 Open collector (2 wire output) 30V 10mA max		
	Serial communication for maintenance I/F mode	RS-485	Start-stop synchronization, full duplex communication, Baud rate: 115200/38400 bps		
Resolution	Micro-step	200 P/R to 125000 P/R (25 settings)			
	Encoder	500 P/R			

Torque vs speed curves

DPF1M542S □ -01



DPF2M562S □ -01



For further information on Sanyo Denki «SANMOTION F5 - DPF», please contact us at +33 1 48 63 26 61 or email us at info@sanyodenki.eu.

SANYO DENKI EUROPE SA.

P.A. PARIS NORD II 48 Allée des Erables-VILLEPINTE BP. 57286 F-95958 ROISSY CDG CEDEX France

<http://www.sanyodenki.eu>

Phone : + 33 1 48 63 26 61

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